

PERSONAL INFORMATION

Name and surname	Tijana Djukic
Date and place of birth	1988., Kragujevac
Scientific title	Senior Research Associate
E-mail	tijana@kg.ac.rs
Educational-scientific / educational-artistic field	Technical-technological sciences
University, Faculty, Organizational unit	University of Kragujevac, Intitute for Information Technologies, Department for technical-technological sciences
Research field and areas	Mechanical engineering; Applied informatics and computational engineering

EDUCATION

BACHELOR

Year	2010. (18.06.2010.)
Place	Kragujevac
Institution	Faculty of Mechanical engineering, University of Kragujevac
Average mark	10.0

MASTER STUDIES

Year	2012. (14.02.2012. – in three semesters)
Place	Kragujevac
Institution	Faculty of Engineering, University of Kragujevac
Average mark	10.0

DOCTORAL DISSERTATION

Year	2015. (08.06.2015. – in less than 3 years)
Place	Kragujevac
Institution	Faculty of Engineering, University of Kragujevac

Average mark	10.0
Title of doctoral dissertation	Modeling motion of deformable body inside fluid and its application in biomedical engineering
Scientific title	PhD – mechanical engineering
Research area	Technical-technological sciences; Computing and informatics

PROFESSIONAL BIOGRAPHY – ELECTION IN RESEARCH OR SCIENTIFIC TITLE

Date	Institution	Scientific title
01.10.2012.	Faculty of Engineering, University of Kragujevac	Research Assistant
26.10.2016.	Faculty of Engineering, University of Kragujevac	Research Associate
28.10.2020.	Faculty of Engineering, University of Kragujevac	Senior Research Associate

PARTICIPATION IN NATIONAL PROJECTS FINANCED BY MINISTRY OF EDUCATION/MINISTRY OF SCIENCE AND TECHNOLOGICAL DEVELOPMENT/SCIENCE FUND OF THE REPUBLIC OF SERBIA:

1. National project OI-174028, 2011-2014, Методе моделирања на више скала са применама у биомедицини, Project PI: prof. Milos Kojic. Organization: Research and Development Center for Bioengineering, BioIRC, Kragujevac

PARTICIPATION IN INTERNATIONAL PROJECTS

1. European project: Parallel blood flow simulation, PRACE (Partnership for Advanced Computing in Europe) Preparatory Access Type B 10th call (15/10/12 – 15/04/13), Project PI prof. Nenad Filipovic.
2. European project: Computer modeling in biomedical engineering, PRACE (Partnership for Advanced Computing in Europe) DECI-11 call Tier-1 (01/11/13 – 31/10/14), Project PI prof. Nenad Filipovic

3. FP7 – Large-scale Integrating Project (IP), ICT IP-224297 – ARTreat: Multi-level patient-specific artery and atherogenesis model for outcome prediction, decision support treatment, and virtual hand-on training (09/01/08 – 8/31/12), Project coordinator for Serbia prof. Nenad Filipovic
4. International project: Modeling of Blood Microcirculation, Margination and Endocytosis of Particles, The University of Texas Health Science Center at Houston, USA, (10/01/08 – 10/31/12), Project coordinator for Serbia prof. Nenad Filipovic
5. COST Action: Action MP1005 NAMABIO - From nano to macro biomaterials (design, processing, characterization, modeling) and applications to stem cells regenerative orthopedic and dental medicine (14/04/11 – 13/04/15), Sponsoring organization: European Cooperation in Science and Technology, Project coordinator for Serbia prof. Nenad Filipovic
6. COST Action: Action CA16122 BIONECA - Biomaterials and advanced physical techniques for regenerative cardiology and neurology, Sponsoring organization: European Cooperation in Science and Technology, Project coordinator for Serbia prof. Nenad Filipovic
7. Scientific Project: IP:Z74Z0_137357 – Computational modeling of blood flow in the tumor vasculature (01/06/12 – 30/05/15), Project coordinators: Prof. Curzio Rüegg, University of Fribourg, Switzerland and Prof. Nenad Filipovic, University of Kragujevac, Serbia.
8. Scientific Project: JRP:IZ73Z0_152454/1 – Role of blood flow and SD-1/CXXR4-induced recruitment of mononuclear cells in intussusceptive angiogenesis (01/09/14 – 30/08/17), Project coordinators: Prof. Valentin Djonov, University of Bern, Switzerland, Assoc. Prof. Ivanka Dimova, University of Sofia, Bulgaria, and Prof. Vladislav Volarevic, University of Kragujevac, Serbia.
9. FP7 – ICT-2013-10 – EMBalance: A Decision Support System incorporating a validated patient-specific, multi-scale Balance Hypermodel towards early diagnostic Evaluation and efficient Management plan formulation of Balance Disorders (01/12/13 – 30/11/16), Project coordinator for Serbia prof. Nenad Filipovic
10. H2020 - PHC-2015-single-stage – SMARTool: Simulation

Modeling of coronary ARtery disease: a tool for clinical decision support (01/01/16-30/06/19), Project coordinator for Serbia prof. Nenad Filipovic

11. H2020 - 755320 - Taxinomis: A multidisciplinary approach for the stratification of patients with carotid artery disease (01/01/18-31/12/23), Project coordinator for Serbia prof. Nenad Filipovic

MEMBERSHIP IN SCIENTIFIC AND PROFESSIONAL ASSOCIATIONS

- Member of Serbian Society for Computational Mechanics
- Member of Serbian Society of Mechanics

LIST OF SCIENTIFIC PAPERS:

Monographs, Monographic studies, Thematic anthologies	Sum 4
M11 1. G. Rakocevic, T. Djukic, N. Filipovic, V. Milutinovic, Computational approaches for Medicine, Data Mining and Modeling, Springer, New York, USA, ISBN: 978-1-4614-8784-5 (Print) 978-1-4614-8785-2 (Online), 2013.	
M13 2. T. Djukic, Numerical modeling of cell separation in microfluidic chips, N. Filipovic (ed.), Computational Modeling in Bioengineering and Bioinformatics, 1st Edition, Elsevier, Paperback ISBN: 9780128195833, eBook ISBN: 9780128195840, pp. 321-352, 2020. 3. T. Djukic, N. Filipovic, Modeling the Motion of Rigid and Deformable Objects in Fluid Flow, in Computational Modeling and Simulation Examples in Bioengineering, Wiley, 2022, pp.33-86, doi: 10.1002/9781119563983.ch2. 4. T. Djukic, N. Filipovic, Simulation of carotid artery plaque development and treatment, in Cardiovascular and Respiratory Bioengineering, Elsevier, 2022, pp. 101-133, ISBN 9780128239568, doi: 10.1016/B978-0-12-823956-8.00004-3.	
Papers published in scientific journals of international	Sum

scientific importance	19
M21a 1. T. Djukic, M. Topalovic, N. Filipovic, Validation of lattice Boltzmann based software for blood flow simulations in complex patient-specific arteries against traditional CFD methods, <i>Mathematics and Computers in Simulation</i>, vol. 203, pp. 957-976, 2023 (doi: 10.1016/j.matcom.2022.07.027) M21 2. N. Filipovic, M. Zivic, M. Obradovic, T. Djukic, Z. Markovic, M. Rosic, Numerical and experimental LDL transport through arterial wall, <i>Microfluidics and Nanofluidics</i>, 16(3), pp. 455-464, 2014 (doi: 10.1007/s10404-013-1238-1) 3. N. Filipovic, T. Djukic, I. Saveljic, P. Milenkovic, G. Jovicic, M. Djuric, Modeling of liver metastatic disease with applied drug therapy, <i>Computer Methods and Programs in Biomedicine</i>, 115(3), pp. 162-170, 2014 (doi: 10.1016/j.cmpb.2014.04.013) 4. T. Djukic, M. Topalovic, N. Filipovic, Numerical simulation of isolation of cancer cells in a microfluidic chip, <i>J. Micromech. Microeng.</i>, 25, pp. 084012, 2015 (doi:10.1088/0960-1317/25/8/084012) 5. D. Brönnimann, T. Djukic, R. Triet, C. Dellenbach, I. Saveljic, M. Rieger, S. Rohr, N. Filipovic, V. Djonov, Pharmacological modulation of hemodynamics in adult zebrafish in vivo, <i>PLOS ONE</i>, 11(3), 2016 (doi: 10.1371/journal.pone.0150948) 6. D. Cvetković, M. Živanović, M. Milutinović, T. Đukić, M. Radović, A. Cvetković, N. Filipović, N. Zdravković, Real-time monitoring of cytotoxic effects of electroporation on breast and colon cancer cell lines, <i>Bioelectrochemistry</i>, 113, pp. 85-94, 2016 (doi: 10.1016/j.bioelechem.2016.10.005) 7. T. Djukic, S. Karthik, I. Saveljic, V. Djonov, N. Filipovic, Modeling the behavior of red blood cells within the caudal vein plexus of zebrafish, <i>Frontiers in Physiology</i>, 2016 (doi: 10.3389/fphys.2016.00455) 8. T. Djukic, N. Filipovic, Numerical modeling of the cupular displacement and motion of otoconia particles in a semicircular canal, <i>Biomechanics and Modeling in Mechanobiology</i>, vol. 16, issue 5, pp. 1669–1680, 2017 (doi: 10.1007/s10237-017-0912-8)	

9. S. Karthik, **T. Djukic**, J.-D. Kim, B. Zuber, A. Makanya, A. Odriozola, R. Hlushchuk, N. Filipovic, S. W. Jin, V. Djonov, Synergistic interaction of sprouting and intussusceptive angiogenesis during zebrafish caudal vein plexus development, *Scientific Reports*, vol. 8, Article number: 9840, 2018
10. **T. Djukic**, I. Saveljic, G. Pelosi, O. Parodi, N. Filipovic, Numerical simulation of stent deployment within patient-specific artery and its validation against clinical data, *Computer Methods and Programs in Biomedicine*, vol. 175, pp. 121-127, 2019 (doi: 10.1016/j.cmpb.2019.04.005)
11. **T. Djukic**, I. Saveljic, N. Filipovic, Numerical modeling of the motion of otoconia particles in the patient-specific semicircular canal, *Computational Particle Mechanics*, vol. 6 (4), pp. 767-780, 2019 (doi:10.1007/s40571-019-00260-1)
12. **T. Djukic**, I. Saveljic, G. Pelosi, O. Parodi, N. Filipovic, A study on the accuracy and efficiency of the improved numerical model for stent implantation using clinical data, *Computer Methods and Programs in Biomedicine* 207, pp. 106196, 2021 (doi: 10.1016/j.cmpb.2021.106196)
13. D. Seklic, **T. Djukic**, D. Milenkovic, M. Jovanovic, M. Zivanovic, Z. Markovic, N. Filipovic, Numerical modelling of WNT/ β -catenin signal pathway in characterization of EMT of colorectal carcinoma cell lines after treatment with Pt(IV) complexes, *Computer Methods and Programs in Biomedicine*, vol. 226, 2022 (doi: 10.1016/j.cmpb.2022.107158)

M22

14. N. Filipovic, V. Isailovic, **T. Djukic**, M. Ferrari, M. Kojic, Multi-scale modeling of circular and elliptical particles in laminar shear flow, *IEEE Trans Biomed Eng*, 59(1), pp. 50-3, 2012
15. **T. Djukic**, V. Mandic, N. Filipovic, Virtual reality aided visualization of fluid flow simulations with application in medical education and diagnostics, *Computers in Biology and Medicine*, 43(12), pp. 2046-2052, 2013.

M23

16. N. Filipovic, D. Nikolic , I. Saveljic, **T. Djukic**, O. Adjic, P. Kovacevic, N. Cemerlic-Adjic, L. Velicki, Computer simulation of thromboexclusion of the complete aorta in the treatment of chronic type B aneurysm, *Computer Aided Surgery*, 18(1-2), pp. 1-9, 2013 (doi: 10.3109/10929088.2012.741145)
17. D. Tadic, M. Misita, D. Milanovic, **T. Djukic**, G. Senussi, A novel approach to process improvement in small and medium manufacturing enterprises, *Proceedings of the Institution of Mechanical Engineers Part B-Journal Of Engineering Manufacture*, 228(5), pp. 777-789, 2014.
18. N. Filipovic, **T. Djukic**, M. Radovic, D. Cvetkovic, M. Curcic, S. Markovic, A. Peulic, B. Jeremic, Electromagnetic field investigation on different cancer cell lines, *Cancer Cell International*, 14, pp. 84-94, 2014.

M24

19. **T. Djukic**, I. Saveljic, G. Pelosi, O. Parodi, N. Filipovic, Improved numerical model of the arterial wall applied for simulations of stent deployment within patient-specific coronary arteries, *Journal of Applied Engineering Science*, 2020, doi: 10.5937/jaes0-27805

Proceedings of international scientific conferences

Sum

38

M32

1. M. Kojic, N. Filipovic, V. Isailovic, I. Vlastelica, B. Stojanovic, D. Petrovic, **T. Djukic**, P. Decuzzi, M. Ferrari, On loose vs strong coupling for fluid-solid interaction in case of deformable body motion through incompressible fluid, 2nd South-East European Conference on Computational Mechanics An IACM-ECCOMAS Special Interest Conference M. Papadrakakis, M. Kojic, V. Papadopoulos (eds.) Rhodes, Greece, 22-24 June 2009.

M33

2. N. Filipovic, **T. Djukic**, M. Radovic, D. Cvetkovic, S. Markovic, B. Jeremic, Experimental and Numerical investigation of

Electromagnetic Field at Different Cancer Cell Lines, 2013 IEEE 13TH International Conference On Bioinformatics And Bioengineering (BIBE), 2013.

3. **T. Djukic**, I. Saveljic, P. Milenkovic, M. Djuric, N. Filipovic, Multi-scale modeling of cancer progression and prediction of tumor behavior based on experimental results, 19th Congress of the European Society of Biomechanics (ESB2013), Patras, Greece, 25-28 August 2013.
4. M. Kojic, V. Isailovic, I. Vlastelica, N. Filipovic, **T. Djukic**, P. Decuzzi, M. Ferrari, Investigation of strong fluid-solid coupling computational scheme in capillary flows, 2nd International Congress of Serbian Society of Mechanics (IConSSM 2009), Palić (Subotica), Serbia, 1-5 June 2009.
5. D. Tadic, M. Stefanovic, S. Arsovski, **T. Djukic**, A. Aleksic, Fuzzy rating of criteria weights of management problems in ELV recycling research area, 5th International Quality Conference, Kragujevac, Serbia, 20 May 2011.
6. V. Isailovic, **T. Djukic**, M. Ferrari, N. Filipovic, M. Kojic, Motion of circular and elliptical particles in laminar flows, Third Serbian (28th Yu) Congress on Theoretical and Applied Mechanics, Vlasina lake, Serbia, 5-8 July 2011.
7. **T. Djukic**, S. Savic, N. Filipovic, Computer simulation of motion of solid particles in laminar flow using strong solid-fluid coupling computational scheme, Forth Serbian (29th Yu) Congress on Theoretical and Applied Mechanics, Vrnjacka Banja, Serbia, 2013.
8. D. Cvetković, M. Živanović, M. Milutinović, **T. Đukić**, M. Radović, A. Cvetković, I. Gadžanski, N. Filipović, S. Marković. Real-time monitoring of cytotoxic effects of electroporation on breast and colon cancer cell lines. Second Congress of the Serbian Association for Cancer Research "Cancer research: perspectives and application", Belgrade, 2015. pp. 24
9. **T. Đukić**, N. Filipović, Numerical Simulation of Behavior of Red Blood Cells and Cancer Cells in Complex Geometrical Domains, IEEE 15TH International Conference On Bioinformatics And Bioengineering (BIBE), Belgrade, Serbia, 2015
10. B. Jeremić, **T. Đukić**, F. Casas, N. Cihorić, N. Filipović, Metal-enhanced Radiotherapy: Gold Nanoparticles and Beyond, IEEE 15TH International Conference On Bioinformatics And Bioengineering

(BIBE), Belgrade, Serbia, 2015

11. **T. Đukić**, D. Cvetković, M. Radović, M. Živanović, N. Filipović, Numerical Modeling of Behavior of Cancer Cells after Electroporation, IEEE 15TH International Conference On Bioinformatics And Bioengineering (BIBE), Belgrade, Serbia, 2015
12. **T. Djukic**, N. Filipovic, Real time otoconia particle tracking in the simplified semi-circular canal, VII European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS Congress), Crete, Greece, 5-10 June, 2016
13. **T. Djukic**, N. Filipovic, Parallelization of the numerical simulation of motion of deformable objects within fluid domain on a GPU device, 2nd EAI International Conference on Future Access Enablers of Ubiquitous and Intelligent Infrastructures (FABULOUS), Belgrade, Serbia, 24-25 October, 2016
14. **T. Djukic**, I. Saveljic, N. Filipovic, Interactive Software for Tracking Motion of Otoconia Particles in the Semicircular Canals of the Inner Ear, M.1.1, 4th South-East European Conference on Computational Mechanics (SEECCM), Kragujevac, Serbia, 3-4 July, 2017.
15. **T. Djukic**, I. Saveljic, N. Filipovic, Parallelization of software for stent deployment inside artery, Belgrade BioInformatics Conference – BelBi, Belgrade, Serbia, 18-22 June, 2018
16. **T. Djukic**, I. Saveljic, N. Filipovic, Real-time simulation of stent deployment and blood flow through a blood vessel with stent, 8th World Congress of Biomechanics - WCB, Dublin, Ireland, 8 – 12 July, 2018
17. **T. Djukic**, I. Saveljic, G. Pelosi, O. Parodi, N. Filipovic, Numerical Simulation of Implantation of Stent Within Artery with Deformable Wall, IEEE-EMBS International Conference on Biomedical and Health Informatics, Chicago, IL, USA, 19 – 22, May 2019
18. I. Saveljic, D. Nikolic, **T. Djukic**, G. Pelosi, O. Parodi, N. Filipovic, 3D modeling of atherosclerosis progression in coronary arteries, IEEE-EMBS International Conference on Biomedical and Health Informatics, Chicago, IL, USA, 19 – 22, May 2019
19. **T. Djukic**, I. Saveljic, G. Pelosi, O. Parodi, N. Filipovic, Using numerical simulations to analyze stress in arterial wall during stent deployment, 25th Congress of the European Society of Biomechanics (ESB), Vienna, Austria, 7-10 July, 2019
20. **T. Djukic**, M. Radovic, D. Cvetkovic, N. Filipovic, Numerical

simulation of the influence of the electromagnetic field on cancer cell lines, 7th International Congress of Serbian Society of Mechanics, Sremski Karlovci, Serbia, June 24-26, 2019

21. **T. Djukic**, I. Saveljic, G. Pelosi, O. Parodi, N. Filipovic, Simulation of Deployment of Multiple Stents Within Deformable Artery, IEEE 19TH International Conference on Bioinformatics and Bioengineering (BIBE), Athens, Greece, October 28-30, 2019.
22. I. Saveljic, D. Nikolic, **T. Djukic**, O. Parodi, N. Filipovic, Numerical simulation plaque formation and progression in the left coronary artery, IEEE 19TH International Conference on Bioinformatics and Bioengineering (BIBE), Athens, Greece, October 28-30, 2019.
23. **T. Djukic**, I. Saveljic, G. Pelosi, O. Parodi, N. Filipovic, Improved numerical model of the arterial wall applied for simulations of stent deployment within patient-specific coronary arteries, YOUNg ResearcherS Conference (YOURS) 2020, Virtual conference, September 28, 2020
24. **T. Djukic**, B. Arsic, I. Koncar, N. Filipovic, 3D reconstruction of patient-specific carotid artery geometry using clinical ultrasound imaging, Workshop Computational Biomechanics for Medicine XV, 23rd International conference on Medical Image Computing & Computer Assisted Intervention (MICCAI), October 4-8, 2020
25. **T. Djukic**, B. Arsic, S. Djorovic, I. Koncar, N. Filipovic, Validation of the machine learning approach for 3D reconstruction of carotid artery from ultrasound imaging, IEEE 20th International Conference on Bioinformatics and Bioengineering (BIBE), October 26-28, 2020
26. **T. Djukic**, B. Arsic, S. Djorovic, B. Gakovic, I. Koncar, N. Filipovic, Automatic segmentation and 3D reconstruction of plaque components in carotid artery from ultrasound images, IEEE-EMBS International Conference on Biomedical and Health Informatics, Virtual Conference, July 27-30, 2021
27. **T. Djukic**, N. Filipovic, Lattice Boltzmann Simulation of Fluid Flow Between Two Rotating Cylinders and Application in Biomedicine, Proceedings of the International Conference on Medical and Biological Engineering, CMBEBIH 2021, Mostar, Bosnia and Herzegovina, April 21-24, 2021, IFMBE Proceedings 84, pp. 777-783
28. **T. Djukic**, N. Filipovic, Simulating fluid flow within coronary arteries using parallelized sparse lattice boltzmann method, 8th International Congress of Serbian Society of Mechanics, Kragujevac,

Serbia, June 28-30, 2021

29. I. Saveljic, S. Macuzic Saveljic, D. Nikolic, **T. Djukic**, S. Djorovic, J. Lukic, N. Filipovic, Numerical modeling the motion of otoconia particles in the semicircular canal under whole body vibration, 8th International Congress of Serbian Society of Mechanics, Kragujevac, Serbia, June 28-30, 2021
30. **T. Djukic**, S. Djorovic, B. Arsic, B. Gakovic, I. Koncar, N. Filipovic, Predicting plaque progression in patient-specific carotid bifurcation, Workshop Computational Biomechanics for Medicine XVI, 24th International conference on Medical Image Computing & Computer Assisted Intervention (MICCAI), September 27-October 1, 2021
31. **T. Djukic**, N. Filipovic, Parallelization of Lattice Boltzmann Software for Execution on Multi-GPU Clusters with Application to the Simulation of Blood Flow Through Human Arteries, IEEE 21st International Conference on Bioinformatics and Bioengineering (BIBE), October 25-27, 2021
32. I. Saveljic, **T. Djukic**, D. Nikolic, S. Djorovic, N. Filipovic, Numerical Simulation of Fractional Flow Reserve in Atherosclerotic Coronary Arteries, IEEE 21st International Conference on Bioinformatics and Bioengineering (BIBE), October 25-27, 2021
33. D. Seklic, **T. Djukic**, M. Zivanovic, M. Jovanovic, N. Filipovic, Numerical Modelling in Assessment of Different Colorectal Cancer Cell Lines Behavior in Treatment with Cisplatin, IEEE 21st International Conference on Bioinformatics and Bioengineering (BIBE), October 25-27, 2021
34. **T. Djukic**, I. Saveljic, N. Filipovic, Addition of remeshing technique to the stent implantation software and its effect on the simulation outcome, 1st International Conference on Chemo and BioInformatics, Kragujevac, Serbia, October 26-27, 2021
35. M. Anic, **T. Djukic**, B. Gakovic, B. Arsic, N. Filipovic, Improved three-dimensional reconstruction of patient-specific carotid bifurcation using deep learning based segmentation of ultrasound images, 1st Serbian International Conference on Applied Artificial Intelligence (SICAAI), Kragujevac, Serbia, May 19-20, 2022
36. **T. Djukic**, S. Tomasevic, B. Arsic, B. Gakovic, N. Filipovic, Integrating deep learning and meshing techniques to perform 3D reconstruction of patient-specific carotid bifurcation with plaque classification, IEEE-EMBS International Conference on Biomedical

and Health Informatics, Ioannina, Greece, September 27-30, 2022 37. N. Filipovic, S. Tomasevic, A. Blagojevic, B. Arsic, M. Anic, T. Djukic, Modeling of Plaque Progression in the Carotid Artery Using Coupled Agent Based with Finite Element Method, IEEE-EMBS International Conference on Biomedical and Health Informatics, Ioannina, Greece, September 27-30, 2022 38. P. K. Siogkas, V. D. Tsakanikas, A. I. Sakellarios, V. T. Potsika, G. Galyfos, F. Sigala, I. Koncar, S. Tomašević, T. Djukic, N. Filipovic, D. I. Fotiadis, MRI vs. US 3D computational models of carotid arteries: a proof-of-concept study, IEEE-EMBS International Conference on Biomedical and Health Informatics, Ioannina, Greece, September 27-30, 2022	
Scientific papers in national journals	Sum 6
M53 1. I. Vlastelica, V. Isailovic, T. Djukic, N. Filipovic, M. Kojic, On accuracy of the Element-free Galerkin (EFG) method in modeling incompressible fluid flow, Journal of the Serbian Society for Computational Mechanics, 2, 1, pp. 90-99, 2008. 2. Djukic, T., Topalovic, M., Filipovic, N., Parallelization of Specialized Fluid Flow Simulator Based on Lattice Boltzmann Method on a Multi GPU System, The IPSI BgD Transactions on Advanced Research, 10(1), pp. 8-12, 2014. 3. Filipovic, N., Djukic, T., Optimization Procedures During Parallelization of Specialized Software for Fluid Flow Simulations, The IPSI BgD Transactions on Advanced Research, 10(1), pp. 1-7, 2014. 4. N. Korolija, T. Djukic, V. Milutinovic, N. Filipovic, Accelerating Lattice-Boltzman Method Using Maxeler DataFlow Approach, The IPSI BgD Transactions on Internet Research, 9(2), pp. 34-42, 2013. 5. Đukić, T., Saveljić, I., Filipović, N., Software for Real Time Interactive Tracking of Otoconia Particles within the Semicircular Canals of the Inner Ear, The IPSI BgD Transactions on Advanced Research, 13(2), pp. 35-41, 2017. 6. I. Saveljic, S. Macuzic Saveljic, D. Nikolic, S. Tomasevic, T. Djukic,	

N. Filipovic, Numerical Analysis of the Impact of Vibration on the Lumbar Spine of the Driver, IPSI Transactions on Internet Research, Vol. 19, No. 1, pp. 63-69, 2022.	
Technical solutions	Sum 2
M81 1. T. Djukic , N. Filipovic, Numerički model i softver za simulaciju procesa kanalitijaze u vestibularnom sistemu čoveka, 2019.	
M82 2. T. Djukic , M. Jeremic. N. Filipovic, M. Ravlic, M. Matovic, Sistem za interaktivno praćenje nivoa radioaktivnosti pacijenata sa karcinomom štitaste žlezde nakon tretmana visokim dozama radioaktivnog joda, 2018.	

CITATION OF SCIENTIFIC PAPERS

Source Scopus: Number of citations: 219 h-Index: 10

PEER-REVIEWS OF SCIENTIFIC PAPERS

Journals on JCR-SCI list: 1. Biomechanics and Modeling in Mechanobiology (ISSN 1617-7959; IF=2.829; M21) - <u>3</u> peer-reviewed papers 2. Biomedical Signal Processing and Control (ISSN 1746-8094; IF=2.943; M21) - <u>15</u> peer-reviewed papers 3. IEEE Transactions on Biomedical Engineering (ISSN 0018-9294; IF=4.491; M21) - <u>1</u> peer-reviewed paper 4. Computer Methods and Programs in Biomedicine (ISSN 0169-2607; IF= 7.027; M21) - <u>1</u> peer-reviewed paper 5. Computers in Biology and Medicine Biomedicine (ISSN 0010-4825; IF= 6.698; M21) - <u>8</u> peer-reviewed papers

6. Diagnostics (ISSN 2075-4418; IF= 3.706; **M21**) - 1 peer-reviewed paper
7. Journal of the Mechanical Behavior of Biomedical Materials (ISSN 1751-6161; IF= 3.372; **M22**) - 4 peer-reviewed papers
8. Computer Applications in Engineering Education (ISSN 1061-3773; IF=1.435; **M22**) - 9 peer-reviewed papers
9. OncoTargets and Therapy (ISSN 1178-6930; IF=2.656; **M22**) - 3 peer-reviewed papers
10. Proceedings of the Institution of Mechanical Engineers. Part H: Journal of Engineering in Medicine (ISSN 0954-4119; IF=1.124; **M23**) - 2 peer-reviewed papers
11. Journal of Biomechanics (ISSN 0021-9290; IF=2.576; **M22**) - 1 peer-reviewed paper

National journals:

12. Journal of the Serbian Society for Computational Mechanics - 3 peer-reviewed papers

BRIEF DESCRIPTION OF RESEARCH IN THE PREVIOUS PERIOD

Development of numerical models and software for the simulations of diverse phenomena in biomedicine, including simulations of blood flow through larger and smaller blood vessels, simulations of motion of particles immersed in fluid, multi-scale modeling of the behavior of cancer cells, modeling the process of canalithiasis in vestibular system, modeling the process of stent implantation in coronary arteries etc.

BRIEF DESCRIPTION OF PLANNED RESEARCH IN THE NEXT PERIOD

Implementation of new numerical models for the simulation of behavior of cancer cells after diverse treatments. Improvement of developed and implemented numerical models for the simulation of blood flow and solid-fluid interaction.